SOIL MANAGEMENT PLAN

Former Pechiney Cast Plate, Inc. Facility

Vernon, California

Prepared for:
Pechiney Cast Plate, Inc.

Prepared by:

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TABLE OF CONTENTS

FIGURES

TABLE

SOIL MANAGEMENT PLAN (SMP)
Former Pechiney Cast Plate, Inc. Facility
Vernon, California

1.0 INTRODUCTION

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler; formerly AMEC), has prepared this soil management plan (SMP) on behalf of Pechiney Cast Plate, Inc. (Pechiney), for the former Pechiney property located at 3200 Fruitland Avenue, in Vernon, California (the site; Figure 1). The former Pechiney property has been subdivided into two areas known as the North Property (Assessor Parcel Numbers [*APNs] xx and xxx*) and the South Property (*APNs yy and yyy*) as shown in Figure 2.

The North Property encompasses approximately 633,191 square feet of real estate and the South Property encompasses approximately 552,715 square feet of real estate. The future uses of the North Property and the South Property have not been proposed, but will be consistent with commercial/ industrial use as described in the Land Use Covenant and Agreement for Environmental Restrictions (*reference pending*).

The SMP is intended to be a plan that describes the protocols for handling and managing soil, including soil containing residual concentrations of chemicals of concern (COCs) following site remediation that may be encountered during future site grading and redevelopment. Depending on the timing of the planned redevelopment, this SMP may need to be revised to reflect the current state of development of the property, current state and federal requirements, and current property conditions.

2.0 SITE BACKGROUND AND REMEDIATION GOALS

Remedial investigations conducted at the Property identified volatile organic compounds (VOCs), petroleum hydrocarbons (as Stoddard solvent), polychlorinated biphenyls (PCBs), and metals (primarily arsenic) in soil; and VOCs and Stoddard solvent in soil vapor; and PCBs in concrete building floor slabs. The investigations also identified VOCs, including trichloroethene and tetrachloroethene, in groundwater beneath the Property. Groundwater is present at a depth of approximately 140 to 150 feet. Remedial investigation and screening level human health risk assessment (HHRA) findings for the Property are summarized in the Feasibility Study (AMEC, May 2012). Based on the HHRA, site-specific remediation goals were established for the COCs in soil vapor, and soil at the Property assuming that the future land use would be for commercial/industrial purposes. The site-specific soil remediation goals are summarized in Table 1.

Pursuant to a July 2010 Imminent and Substantial Endangerment Determination and Consent Order, a Remedial Action Plan (as amended, the "RAP") was prepared and implemented to mitigate concrete, soil, and groundwater impacts at the Property under the oversight of the Department of Toxic Substances Control (DTSC). Pursuant to the Code of Federal Regulations, Title 40, Subchapter R, Toxic Substances Control Act (TSCA), the US Environmental Protection Agency (US EPA) has oversight for PCB-impacted soil and concrete. Mitigation of the PCB-impacted concrete and soil was approved by the US EPA. Based on site-specific remediation goals developed for COCs present in concrete and soil at the Property, these impacted media were mitigated to meet the site-specific remediation goals presented in the RAP. Remediation of VOC-impacted soil on the Northern Property and Stoddard solvent-impacted soil on the Southern Property is being mitigated by soil vapor extract (SVE) and SVE/Bioventing, respectively.

As detailed in the Completion Reports (AMEC, 2014a,b,c,d), soil within portions of the Property, to a depth of 15 feet or more below the native grade, contain hazardous substances, which include the COCs listed in Section 3.0 below. Native grade was relative to the elevation of the asphalt surface that runs along the eastern side of the site. Native grade elevations used are shown on Figure 2. In addition, soil remains in place at depths greater than 15 feet below native grade with PCB concentrations above 23 milligrams per kilogram (mg/kg). As approved by US EPA, these areas are covered with a physical underground warning barrier that consists of concrete slurry covered with an orange fabric. The locations of these underground warning barriers are shown on Figure 3.

The site is currently graded, fenced, and vacant. Future redevelopment plans are not known, but may require over-excavation and recompaction of native soil or import fill for structural or other purposes. If imported fill is necessary, the import fill requirements shall meet those described in Section 4.5. If impacted soils are encountered during earthwork, the soil must be managed for potential off-site disposal or stockpiled for potential onsite re-use as described in Section 4.3.

3.0 CHEMICALS OF CONCERN

This section described the COCs that may be present at the site, and impacted soil may be encountered during site grading and redevelopment work. The COCs that may be encountered in soil include:

- total petroleum hydrocarbons (TPH as Stoddard solvent)
- PCBs

- VOCs, such as chloroform, PCE and TCE in the North Property area, and 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene in the South Property area. Metals (primarily arsenic)

The presence of these COCs in soil at the site shall be considered during site grading and construction excavation.

4.0 SOIL MANAGEMENT

This section provides procedures for monitoring, soil testing, equipment decontamination, managing and testing of soil stockpiles, import fill soil requirements, and site access, all of which shall need to be implemented in the event earth work is being conducted in areas with residual COCs remaining at concentrations exceeding the remediation goals (Table 1) or if impacted soil is encountered during redevelopment.

For the Property, where PCBs were a COC, remediation goals were established for PCBs at a certain depth intervals, ground surface to 5 feet below native grade, 5 feet to 15 feet below native grade, and below 15 feet below native grade. Because these remediation goals are depth-specific, earthwork must be conducted in a manner in which soil from each respective layer is not mixed with a layer that contains soil mitigated to a less-restrictive remediation goal. Restated, deeper soil intervals shall not be mixed or co-mingled with a shallower soil interval and placed in the shallower interval. In addition, crushed concrete that was used on site as backfill and surface cover may contain PCBs at concentrations less than or equal to 1 mg/kg.

4.1 MONITORING REQUIREMENTS

This section describes monitoring measures for future site work where visibly stained soil is observed or where potentially TPH- or VOC-impacted soils may be discovered or encountered during site grading and construction excavation. General control and monitoring methods for VOC emissions (if encountered) and dust generation are included in this section. While these elements are discussed in this section, all other potentially applicable laws and regulations shall be considered prior to beginning earthwork at the site.

4.1.1 SCAQMD Rule 1166 Requirements

Soil at the site may require VOC monitoring in accordance with South Coast Air Quality Management District (SCAQMD Rule 1166). Monitoring for the presence of VOC-impacted soil and implementing a VOC-impacted soil mitigation plan approved by the SCAQMD Executive Officer will be required if VOC-impacted soil is encountered during grading and excavation work. A copy of the plan must be on site during the entire excavation period, and the provisions for monitoring and reporting under the Rule 1166 permit/plan must be implemented.

If VOC-impacted soil as defined under Rule 1166 is detected during site work, the approved mitigation plan must be implemented and the SCAQMD Executive Officer must be notified within 24 hours of its detection. VOC-impacted soil must be segregated from non-VOC impacted soil and be vapor suppressed in compliance with Rule 1166

4.1.2 Fugitive Dust

Dust and odor control measures during site grading and excavation shall be implemented to prevent airborne dust from leaving the site boundary, in accordance with SCAQMD regulations. Conditions shall be evaluated and the adequacy of dust control measures, as based on real-time monitoring and SCAQMD Rule 403, shall be evaluated. The following dust mitigation measures may be implemented if real-time monitoring for fugitive dust exceeds the action level, or if observations of visible dust emissions at the site boundary are made.

- Apply water spray or mist during activities such as excavation or stockpile management to minimize the generation of visible dust;
- Have a water supply available continuously;
- Cover soil stockpiles;
- Minimize open excavations;
- Keep the drop heights to a minimum, during the handling of materials or loading of transportation vehicles;
- Keep vehicle speeds on the property below 5 miles per hour; and
- Reduce the pace of work.

Construction procedures or dust control measures may be altered based on observations of the effectiveness of such measures. Work must stop until such measures are improved or additional or more effective measures are employed. Additional air monitoring may be conducted to confirm the effectiveness of emission reduction activities.

4.2 Soil Testing and Equipment Decontamination

If impacted soil is observed (based on visual staining, odors, or other observations), soil sampling and analysis for TPH and VOCs shall be conducted to assess the presence of these COCs at concentrations above the screening levels (Table 1). If impacted soil is encountered that exceeds the soil screening levels and to the extent the impacted soil requires excavation and offsite disposal, additional soil sampling shall be conducted under the supervision of a Professional Geologist (PG) or Civil Engineer (PE) registered in the State of California experienced in performing environmental investigations.

The number of, and the methods used to collect the soil samples and the analyses to be performed shall be selected in the field by the supervising PG or PE. The analytical suite shall be selected based on field observations, and may include the following test methods:

- TPH with carbon chain range quantification (TPHcc) using EPA Method 8015M (Modified);
- PCBs using EPA Method 8082;
- Metals using EPA Methods 6010B/7242; and
- VOCs using EPA Method 8260B and field preservation Method 5035.

Samples shall be collected in glass jars of brass tubes, which shall be sealed, uniquely labeled, and stored in an ice chest filled with ice to keep the samples chilled. The samples shall be shipped to an analytical laboratory accredited by the State of California, Department of Public Health under their Environmental Laboratory Accreditation Program (ELAP) using chain of custody procedures.

Re-useable sampling equipment (hand augers, shovels, etc.) will be decontaminated using the following steps to reduce the potential for cross-contamination.

1. wash and scrub in non-phosphate detergent and potable water;
2. rinse in potable water; and
3. rinse in DI water and air dry

Investigation derived residuals, including decontamination water, shall be managed in accordance with regulatory requirements.

4.3 STOCKPILE MANAGEMENT AND TESTING

During site grading or excavation, excess soil spoils, including COC-impacted soil, may be generated that require temporary stockpiling. Stockpiled soil may either be returned to the soil interval from which the soil was encountered or may be transported off site for disposal.

If COC-impacted soil is encountered, the excavated COC-impacted soil shall be stockpiled on plastic sheeting with a minimum thickness of 10 mils to reduce the potential for spreading contamination on surface soil. Stockpiles shall be covered at the end of the work day with plastic sheeting to reduce the potential for erosion or direct contact with storm water and to prevent unauthorized access. Plastic sheeting shall be weighted down to prevent the pile from being uncovered by wind.

If the stockpiled, COC-impacted soil is to be transported off site for disposal, the soil shall be profiled for waste characteristics. Soil samples shall be collected in-place for PCBs or from stockpiles for other constituents. Waste profiling shall consist of collecting soil samples for laboratory analyses at the following minimum frequency.

- One sample per 100 cubic yards excavated or less.
- Three samples per 100 to 500 cubic yards excavated.
- One sample per 500 cubic yards excavated up to 2500 cubic yards, or more.

Sampling shall be conducted in conformance with the procedures stipulated by the supervising PG or PE. Soil samples shall be analyzed for the following constituents.

- TPH with carbon chain range quantification (TPHcc) using EPA Method 8015M (Modified);
- VOCs using EPA Method 8260B and field preservation Method 5035;
- PCBs using EPA Method 8082 (North Property only); and
- Metals using EPA Methods 6010/7242.

Other analyses may be required contingent on waste profiling requirements, receiving facility requirements, or other regulatory directives.

4.4 SITE ACCESS

Vehicle and personnel access to areas where potentially impacted soils are encountered shall be controlled. Caution tape, cones, fencing, steel plates, or other appropriate measures shall be used to clearly designate the active area and to prevent access by the public. Stockpiles of potentially impacted soil shall be secured to prevent unauthorized access.

4.5 IMPORT FILL SOIL REQUIREMENTS

If needed, any off-site soils brought to the site for use as backfill (import fill) must be tested in general conformance with the Department of Toxic Substances Control (DTSC), Information Advisory Clean Imported Fill Material document (DTSC, 2001). Import fill shall be tested for target compounds based on the location of the fill source area; however, as a minimum, the fill should be tested for the following constituents.

- TPHcc using EPA Method 8015
- VOCs using EPA Method 8260B
- PCBs using EPA Method 8082

- Title 22 metals using 6010B/7242.

Other analyses may be required contingent on the source of the import fill or recommendations by the supervising PG or PE. A minimum of one sample for laboratory analysis is suggested per 1000 tons of import fill.

5.0 HEALTH & SAFETY REQUIREMENTS

Project personnel shall comply with all applicable federal, state, and local regulations, as well as the State of California Construction Safety Orders (Title 8). Additionally, if COC-impacted soil is encountered, personnel working in the COC impacted area must comply with Occupational Safety and Health Administration (OSHA) regulations specified in 29 CFR 1910.120 and CCR Title 8, Section 5192. A site-specific health and safety plan shall be prepared prior to the start of earth work.

6.0 LIMITATIONS

This SMP does not address topics related to other chemicals or media that may be encountered during a redevelopment or future site actives, including but not limited to, demolition and construction debris, asphalt, concrete, asbestos-containing materials, and other affected media. If such materials are encountered, contractors and workers are responsible for complying with all applicable laws pertaining to the handling and disposal of these materials.

In preparing this SMP, Amec Foster Wheeler has relied upon certain information and representations obtained from documents prepared by others. To the extent that recommendations are based in whole or in part on such information, those conclusions are contingent on its accuracy and validity. Amec Foster Wheeler assumes no responsibility for any consequences arising from any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available to Amec Foster Wheeler.

This SMP is based on current known site conditions and current laws, policies and regulations. No representation is made to any present or future developer or property owner of the site, or portions of the site with respect to future site conditions, other than those specifically identified within this document.

Amec Foster Wheeler disclaims any responsibility for any unintended or unauthorized use of this SMP. Amec Foster Wheeler has not made any commitment to, or assumed any obligation or liability to any present or future developer, property owner, tenant, consultant, agent, contractor, user or other party owning or visiting the Site or portion of the Site based upon or arising out of implementation this SMP. It is expressly understood that while this SMP is

intended to provide guidance and establish a framework for the management of residual chemicals in deeper soils to protect human health and the environment, this SMP shall not create any warranties or obligations to Amec Foster Wheeler as to implementation, adequacy, or success of protective measures under this SMP.

7.0 REFERENCES

AMEC Environment & Infrastructure, Inc. (AMEC), 2012a, Feasibility Study, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, May 7.

AMEC, 2012b, Remedial Action Plan, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, June 28.

AMEC, 2013a, Final Phase I Completion Report, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, June 6 then revised November 13.

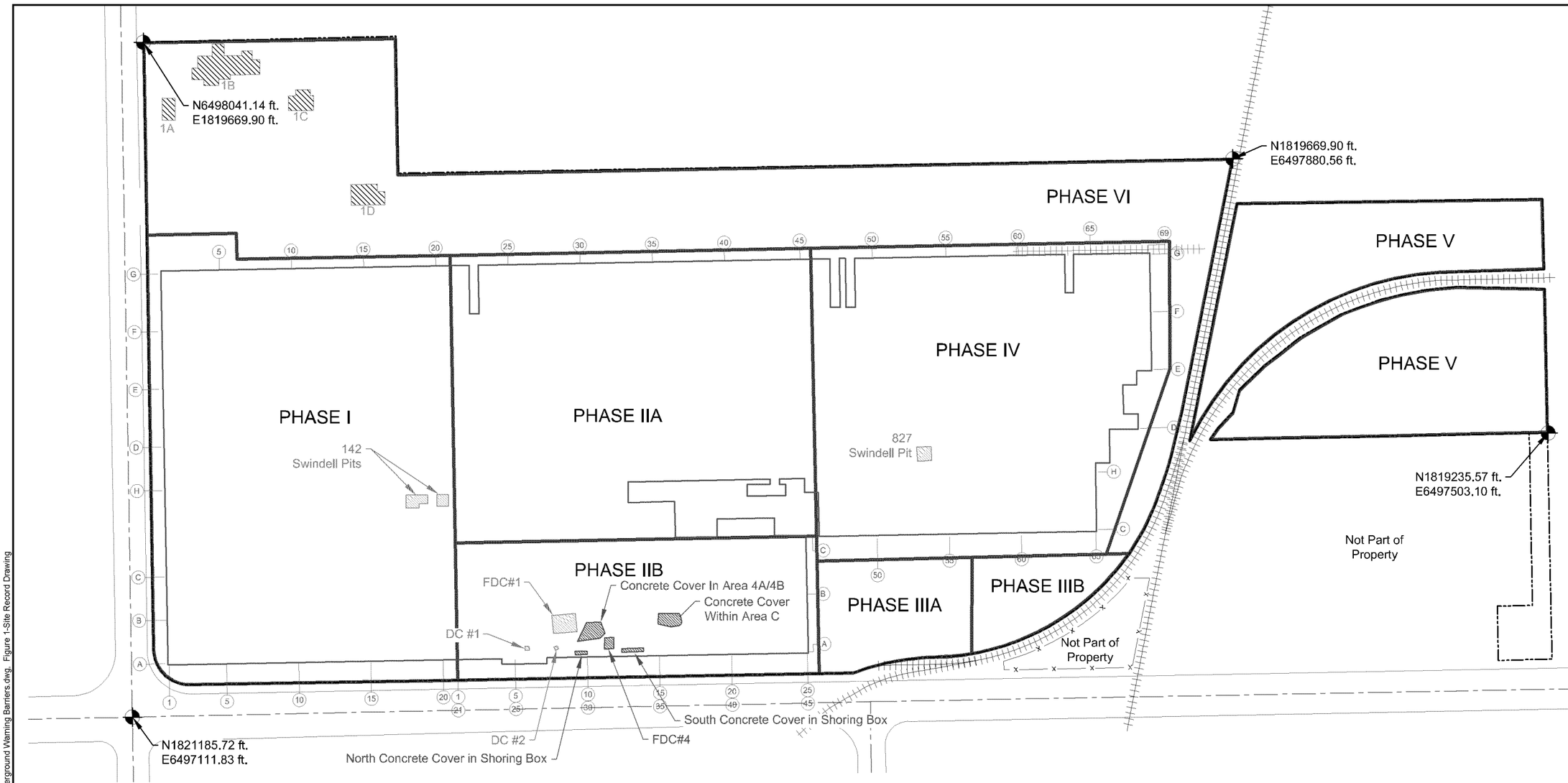
AMEC, 2013b, Phase V Completion Report, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, September 26.

AMEC, 2013c, Phase III, IV, and VI Completion Report, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, October 7.

AMEC, 2013d, Phase II Completion Report, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, November 7.

Department of Toxic Substances Control, 2001, Information Advisory Clean Imported Fill Material.

FIGURES



Explanation

- Concrete cover with underground warning barrier
- Deeper structure with concrete cover
- Previously decommissioned and concrete capped buried structures (1A, 1B, and 1C) and concrete slab (1D) [Ursic, 1999]
- Site boundary
- Phase boundary
- Chain link fence
- Railroad tracks
- Former building pad
- (69) (G) Former building column and row numbering system

Benchmark:

Vertical Datum NAVD88

County of Los Angeles BM #Y10598, 2" Disc in walk
4.6' N/O CF, 14.8' W/O BCR at NE COR Slauson Avenue and
Boyle Avenue (to the N) MKD (City of Vernon MON)

2005 Elev= 168.611 Feet NAVD88

Horizontal Datum NAD83, Zone 5

NGS PID Stations AJ1840 and AJ1885 EPOCH DATE 2000.35

0 75 150
Approximate scale in feet

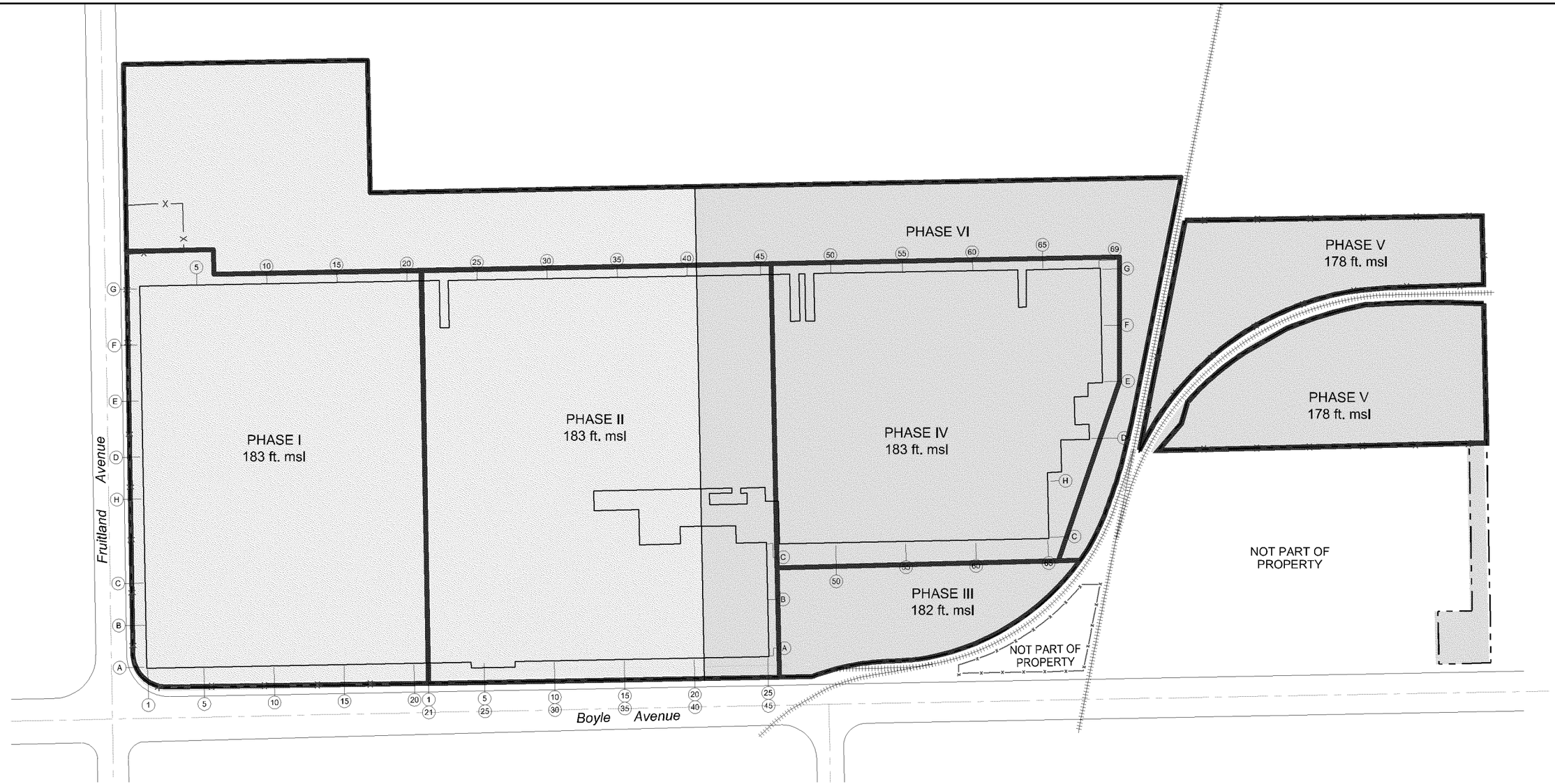
Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Aluminum Company of America "Works General-MPA" Figure dated October 10, 1984; Los Angeles County Assessor's Office Parcel Map 6310/Sheet 8 dated November 5, 1958; surveys conducted May 31, 2006 and June 6, 2006 by CalVada Surveyors; and surveys conducted October 12, 2011 and September 10, 2013 by Dulin & Boynton.

LOCATIONS OF UNDERGROUND WARNING BARRIERS AND STRUCTURES
Former Pechiney Cast Plate, Inc. Facility
3200 Fruitland Avenue
Vernon, California

amec foster wheeler

Date: 02/24/2015	Project No. 16027.003	Figure 3
Submitted By: lc	Drawn By: pah	

Plot Date: 2/24/2015 11:39:16 AM, Plotted by: pat.herring
Drawing Path: Y:\16027.003.0\acad\Reports-2015\Soil_Mgt_Report-20150223tb_002-Underground Warning Barriers.dwg, Figure 1-Site Record Drawing



Explanation

- North property
- South property
- Site boundary
- Phase boundary
- Phase I 183 ft. msl — Phase designation and native grade reference elevation in feet above mean sea level (msl)
- Chain link fence
- Railroad tracks
- Former building pad
- 69 G — Former building column and row numbering system

Note:

All locations are approximate.

0 75 150

Approximate scale in feet

Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Aluminum Company of America "Works General-MPA" Figure dated October 10, 1984; Los Angeles County Assessor's Office Parcel Map 6310/Sheet 8 dated November 5, 1958; surveys conducted May 31, 2006 and June 6, 2006 by CalVada Surveyors; and surveys conducted October 12, 2011 and September 10, 2013 by Dulin & Boynton.

NORTH AND SOUTH PROPERTIES WITH REFERENCE TO NATIVE GRADE
Former Pechiney Cast Plate, Inc. Facility
3200 Fruitland Avenue
Vernon, California

amec foster wheeler

Date: 02/24/2015	Project No. 10627.003	Figure 2
Submitted By: lc	Drawn By: pah	

Plot Date: 2/24/2015 11:43:55 AM, Plotted by: pat.herring
Drawing Path: Y:\10627.003.0acad\Reports-2015\Soil_Mgt_Report-20150223_tb-001-North South Properties.dwg, Figure 2-North South Properties

0 1000 2000

Approximate Scale in Feet

SITE LOCATION MAP
Former Pechiney Cast Plate, Inc. Facility
3200 Fruitland Avenue
Vernon, California

amec foster wheeler

Date: 02/23/2015	Project No. 10627.003	Figure 1
Submitted By: lc	Drawn By: pah	

Plot Date: 2/23/2015 5:03:48 PM, Plotted by: pat herring
Drawing Path: Y:\10627.003.0\ACAD\REPORTS-2015\SOIL_MGT_REPORT-20150223_TB_PECHINEYPLATELOCATIONMAP.DWG , Figure 1-Site Location Map

TABLE

TABLE 1

SITE-SPECIFIC REMEDIATION GOALS –
PCBs IN SOIL AND CONCRETE, AND METALS AND TPH IN SOIL
Former Pechiney Cast Plate, Inc. Facility
Vernon, California

Compound	Remediation Goal (mg/kg)	Explanation
PCBs in Soil		
Aroclor-1254	2.0	Noncarcinogenic RBSL[1] for construction workers. Also protective of commercial/industrial worker exposure.
Total Aroclors *For soil that may be left exposed at the surface (0 to 5 feet bgs)*	3.5	Based on the regression analysis for dioxin-like PCB congeners versus total Aroclors in combined soil and concrete presented in Appendix E of the FS (AMEC, 2012a), the total Aroclor concentration that would result in a maximum dioxin TEQ concentration of 81 pg/g.[2] Protective of cumulative commercial/industrial worker exposure, and cumulative construction worker exposure, to PCBs.
Total Aroclors *For subsurface soil (5 to 15 feet bgs) that only construction workers may come into contact with during excavation, grading, etc. (and that would remain at 5 to 15 feet bgs)*	23	Based on the regression analysis for dioxin-like PCB congeners versus total Aroclors in combined soil and concrete presented in Appendix E of the FS (AMEC, 2012a), the total Aroclor concentration that would result in a maximum dioxin TEQ concentration of 530 pg/g.[3] Protective of cumulative construction worker exposure to PCBs.
PCBs in Concrete		
Total Aroclors	1.0* 3.5	Based on the regression analysis for dioxin-like PCB congeners versus total Aroclors in combined soil and concrete presented in Appendix E of the FS (AMEC, 2012a), the total Aroclor concentration (**3.5 mg/kg**) that would result in a maximum dioxin TEQ concentration of 81 pg/g. Also protective of cumulative construction worker exposure to PCBs. Applying this remediation goal ensures that waste criteria for concrete containing PCBs is also met [i.e., less than 50 mg/kg, as defined in 40 CFR Section 761.61(a)(4)(i)(A)]. * The remediation goal for concrete was reduced to a concentration greater than **1 mg/kg** to eliminate the placement of "Restricted Fill" onsite. As presented in the FS, Restricted Fill was defined as concrete with PCBs at concentrations greater than 1 mg/kg and less than or equal to 3.5 mg/kg.
Metals in Soil		
Arsenic	10	Site-Specific Background Concentration in Soil, established as described in Appendix B of the FS (AMEC, 2012a).
Chromium	25	Site-Specific Background Concentration in Soil, established as described in Appendix B of the FS (AMEC, 2012a).
Lead	320	RBSL in Soil for Outdoor Commercial/Industrial Worker, established as described in Appendix C of the FS (AMEC, 2012a).

TABLE 1

SITE-SPECIFIC REMEDIATION GOALS –
PCBs IN SOIL AND CONCRETE, AND METALS AND TPH IN SOIL
Former Pechiney Cast Plate, Inc. Facility
Vernon, California

Compound	Remediation Goal (mg/kg)	Explanation
TPH in Soil		
c5-c10 hydrocarbons, c6-c10 hydrocarbons, c7-c12 hydrocarbons, and Stoddard solvent	500	Screening Level for the Protection of Groundwater for TPH gasoline range (c4-c12) from the Los Angeles RWQCB Guidebook.[4]
c10-c20 hydrocarbons and c10-c28 hydrocarbons	1000	Screening Level for the Protection of Groundwater for TPH diesel range (c13-c22) from the Los Angeles RWQCB Guidebook.[4]
c21-c28 hydrocarbons	10,000	Screening Level for the Protection of Groundwater for TPH as residual fuel (c23-c32) from the Los Angeles RWQCB Guidebook.[4]

Notes

1. Developed based on the methodology described in Appendix C of the FS (AMEC, 2012), RBSLs were used to conduct the screening-level human health risk assessment for the Site.
2. Based on the carcinogenic RBSL for dioxin-like PCB congeners for outdoor commercial/industrial workers (8.1 pg/g TEQ), adjusted to a target cancer risk of 10-5.
3. Based on the carcinogenic RBSL for dioxin-like PCB congeners for construction workers (53 pg/g TEQ), adjusted to a target cancer risk of 10-5.
4. Los Angeles RWQCB Interim Site Assessment and Cleanup Guidebook (RWQCB Guidebook, May 1996; updated May 2004), for petroleum hydrocarbons and aromatic hydrocarbons (benzene, toluene, ethylbenzene, and total xylenes [BTEX] compounds) in soil. The selected screening levels were taken from Table 4-1 assuming distance above groundwater is 20 to 150 feet.

Abbreviations

bgs = below ground surface
CFR = Code of Federal Regulations
FS = Feasibility Study
mg/kg = milligrams per kilogram
PCBs = polychlorinated biphenyls
pg/g = picograms/gram
RBSL = risk-based screening level
RWQCB = California Regional Water Quality Control Board
TEQ = toxic equivalent
TPH = total petroleum hydrocarbons